

REMARKS

Claims 18 to 23 are added, and therefore claims 7 to 23 are now pending.

Applicant notes with appreciation the acknowledgment of the claim for foreign priority and the receipt of copies of the certified copies of the priority documents.

Applicant thanks the Examiner for considering the previously filed Information Disclosure Statement, PTO-1449 paper and cited references.

With respect to paragraph two (2) of the Office Action, the abstract was objected to as containing more than 150 words. It is submitted that the Abstract, as presented, overcomes the present objection. Therefore, withdrawal of the objection is respectfully requested.

With respect to paragraph three (3), claims 7 to 17 were rejected under 35 U.S.C. § 112, first paragraph, as lacking enablement.

It is respectfully submitted that the Specification properly describes the “connecting part” and “magnetic restricter”. For example, the Specification states as follows:

In contrast to the embodiment described on the basis of Figures 2 and 3, in the exemplary embodiment according to the present dimension, no adjusting disk 34 is provided. Instead, second limit stop 33 is configured directly on intake-side end face 50 of the **connecting part** that is configured as valve seat support 16. In the exemplary embodiment depicted in Figure 4, valve seat support 16 is made of a magnetic, in particular, ferritic material. In this context, what is avoided is that a significant magnetic flux flows from armature 11 into valve seat support 16 and then further directly into housing body 17, which closes the magnetic circuit as external pole 59, because this brings about a counterforce acting on armature 11 in the direction contrary to opening, thus reducing the magnetic opening force that is effectively exerted upon armature 11. Rather, care is taken that the main magnetic flux flows directly from armature 11 into housing body 17, circumventing valve seat support 16. For this purpose, a **magnetic restricter** 56 is provided on valve seat support 16 directly in the fuel flow direction underneath end face 50 forming second limit stop 33, the restricter being formed by an annular groove 51. As a result of the constriction of the material of valve seat support 16 in the area of restricter 56, the magnetic flux at this location is weakened, so that the main flux overflows directly from armature 11 into housing body 17, i.e., in the reverse direction. A casing 52 is disposed between housing body 17 and armature 11 and valve seat support 16.

(See Specification at p. 9, line 19 to p. 20, line 3 (emphasis added)).

Since the rejections under the first paragraph of 35 U.S.C. § 112 concern enablement, it is respectfully submitted that the standard for determining whether a patent application complies with the enablement requirement is that the specification describe how to make and use the invention -- which is defined by the claims. (See M.P.E.P. § 2164). The Supreme Court established the appropriate standard as being whether any experimentation for

practicing the invention was undue or unreasonable. (See M.P.E.P. § 2164.01 (citing *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916); *In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed Cir. 1988))). Thus, the enablement test is “whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” (See *id.* (citing *United States v. Teletronics, Inc.*, 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988))).

The Federal Circuit has made clear that there are many factors to be considered in determining whether a specification satisfies the enablement requirement and that these factors include but are not limited to the following: the breadth of the claims; the nature of the invention; the state of the prior art; the level of ordinary skill; the level of predictability in the art; the amount of direction provided by the inventor; the existence of working examples; and the quantity of experimentation needed to make or use the invention based on the disclosure. (See *id.* (citing *In re Wands*, 858 F.2d at 737, 8 U.S.P.Q.2d at 1404 and 1407)). In this regard, the Federal Circuit has also stated that it is “improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors,” and that the examiner’s analysis must therefore “consider all the evidence related to each of these factors” so that any nonenablement conclusion “must be based on the evidence as a whole.” (See M.P.E.P. § 2164.01). It is respectfully submitted that the Office Action has not addressed these factors.

Importantly, an examiner bears the initial burden of establishing why the “scope of protection provided by a claim is not adequately enabled by the disclosure.” (See *id.* (citing *In re Wright*, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993))). Accordingly, a specification that teaches the manner and process of making and using an invention in terms that correspond in scope to those used in describing and defining the claimed subject matter complies with the enablement requirement. (See *id.*).

It is believed that the present assertions of the Office Action do not meaningfully address whether the present application enables a person having ordinary skill in the art to practice the claimed subject matter of the claims without undue experimentation -- which it plainly does. In short, it is believed that the Office Action’s arguments and assertions do not really address the issue of whether one having ordinary skill would have to *unduly experiment* to practice the claimed subject matter of the rejected claims -- a proposition for which the Office bears the burden of proving a *prima facie* case as to the rejected claims.

In this regard, to properly establish enablement or non-enablement, the Office must

make use of proper evidence, sound scientific reasoning and the established law. In the case of *Ex Parte Reese*, 40 U.S.P.Q.2d 1221 (Bd. Pat. App. & Int. 1996), a patent examiner rejected (under the first paragraph of section 112) application claims because they were based on an assertedly non-enabling disclosure, and was promptly reversed because the rejection was based only on the examiner's subjective belief that the specification was not enabling as to the claims. In particular, it is respectfully submitted that the subjective assertions of the Office Action are simply not supported by any real "evidence or sound scientific reasoning" -- which the law requires and which makes plain that the Office (and not an applicant) bears the burden of persuasion on an enablement rejection.

More particularly, the examiner in *Ex parte Reese* was reversed because the rejection had only been based on a conclusory statement that the specification did not contain a sufficiently explicit disclosure to enable a person to practice the claimed invention without exercising undue experimentation -- which the Board found to be merely a conclusory statement that only reflected the subjective and unsupported beliefs of a particular examiner and that was not supported by any proper evidence, facts or scientific reasoning. (*See id.*). Moreover, the Board made clear that it is "incumbent upon the Patent Office . . . to back up assertions of its own with acceptable evidence," and also made clear that "[where an] examiner's 'Response to Argument' is not supported by evidence, facts or sound scientific reasoning, [then an] examiner has not established a *prima facie* case of lack of enablement under 35 U.S.C. § 112, first paragraph." (*See id.* at 1222 & 1223; italics in original).

In the present case, it is respectfully submitted that the Office Action has not satisfied the foregoing for establishing that undue experimentation would be required. Indeed, the Office Action does not even allege that undue experimentation would be required to make and/or use the invention defined by the claims.

In view of all of the foregoing, withdrawal of the enablement rejections of the claims under 35 U.S.C. § 112, first paragraph is respectfully requested.

With respect to paragraph four (4), claims 7 to 8, 11 and 15 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

The second paragraph of 35 U.S.C. § 112 merely requires that the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity. As provided in M.P.E.P. § 2173.02, the "focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph is whether the claim meets the threshold requirement of clarity and precision." In this regard, the "essential

inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity.” *Id.* (emphasis added). “Definiteness of claim language must be analyzed, not in a vacuum, but in light of[, *inter alia*, the] content of the particular application disclosure[and the] claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made.” *Id.* If the claims, when read in light of the Specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the second paragraph of 35 U.S.C. § 112 demands no more. M.P.E.P. § 2173.05(a) (citing *Shatterproof Glass Corp. v. Libbey Owens Ford Co.*, 758 F.2d 613, 225 U.S.P.Q. 634 (Fed. Cir. 1985)).

The Office Action asserts that “the connecting part” of claims 7 and 11 is vague and indefinite because there is no antecedent basis for this element. (See Office Action at p. 3). Claim 7 recites “a connecting part formed of a magnetic material and on which is supported the valve seat”, so that claim 7 includes proper antecedent basis for the “connecting part”.

The Office Action further asserts that there is no clear connection for “the connecting part that is configured as valve seat support”. (See Office Action at p. 3). It is respectfully submitted that claim 7 need not recite a connection for the connecting part. Notwithstanding the above, Applicant submits that claim 7 recites that the connecting part is supported on the valve seat and that the valve seat cooperates with the valve-closure member.

The Office Action further asserts that claim 15 is vague and indefinite because there is no antecedent basis for the term “magnetic restrictor”. Respectfully, claim 15 depends on claim 7 which recites “a magnetic restrictor”. It is therefore, submitted that the term “magnetic restrictor” does not lack antecedent basis.

Therefore, withdrawal of the indefiniteness rejections of claims 7 to 8, 11 and 15 is respectfully requested.

With respect to paragraph five (5), claims 7 to 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,844,339 (“Sayer”) in view of U.S. Patent No. 4,984,549 (“Mesenich”). Applicant respectfully submits that claims 7 to 17 are allowable for at least the following reasons.

Claim 7 relates to a fuel injector for a fuel injection system of an internal combustion engine, and provides the feature that the armature is acted upon by the second resetting spring, and the feature that the second resetting spring acts upon the armature contrary to the stroke direction.

Claim 9 is like claim 7 except that claim 9 recites that the connecting part is formed of a non-magnetic material.

The Sayer reference purportedly relates to a fuel injection apparatus for delivering a metered quantity of fuel to an engine. It states that the apparatus includes a valve controlled port through which a metered quantity of fuel is delivered to the engine, the valve (14) being resiliently urged to a position to close said port. (See Abstract). The electromagnetic arrangement (18) is stated to be operable when energized to displace valve member (14) from the closed position to permit delivery of the metered quantity of fuel through the port to the engine, and to include an armature member (30) movable in a first direction in response to energizing of the electromagnetic arrangement (18) to effect the opening of the port. (See Abstract). The armature (30) is stated to have a limited free movement in the first and the opposite directions independent of the valve member (14) when the electromagnetic arrangement is not energized and the valve member is in the port closed position. (See Abstract)

It is believed and respectfully submitted that Sayer reference does not disclose, or even suggest, the features of an “armature being acted upon by the second resetting spring” or the feature that provides that “the second resetting spring acts upon the armature contrary to the stroke direction”, as recited in claims 7 and 9. In Sayer, springs (25) and (35) do not directly contact armature (30). The armature (3) is stated to be of a generally cylindrical form and have freedom for axial movement in bore (31). (See col. 3, lines 61 to 63). Compression spring (35) is stated to be located between pad (34) and adjustor block (36) and spring (25) is stated to be compressed between spacer sleeve (26) and spring cap (27). (See col. 3, lines 49 to 51 and 66 to 68).

Further, Sayer does not disclose, or even suggest, that “the second resetting spring holds the armature in position at the stationary second limit stop such that the armature is positioned at a preestablished distance from the first limit stop, configured on the valve needle”, as recited in the context of claims 7 and 9 (emphasis added). As indicated above, in the static closed condition, the armature (30) is stated to be supported on the pad (34) by the engagement of the pad with the shoulder (33). (See col. 4, lines 12 to 15). Accordingly, even if pad (34) is considered to be a first limit stop configured on a valve needle (which is not canceled), it is submitted that there is no space between the armature (30) and the pad (34) in the closed condition. Further, Sayer does not disclose, or even suggest, a magnetic restricter disposed in a vicinity of the stationary second limit stop and arranged on at least one of the

connecting part and the armature, as recited in the context of claims 7 and 9. Further, Sayer also does not disclose, or even suggest, a connecting part formed of a magnetic material and on which is supported the valve seat, as recited in claim 7. Port (13) is not stated to be made from a magnetic material. Further, as the Office Action admits, Sayer “fail[s] to teach a valve needle”. (See Office Action at p. 4). Therefore, Sayer does not disclose all of the features of claims 7 and 9.

The secondary Mesenich reference does not cure the critical deficiencies of the Sayer reference. The Mesenich reference purportedly relates to a electromagnetic injection valve, and is stated to include an armature (23), connected to an armature guiding tube (24), and a spring guide sleeve (26). (See col. 17, lines 57 to 58; and col. 18, lines 45, 61 to 62). Spring guide sleeve (26) is stated to carry springs (28) and (35), and spring (35) is stated to press valve needle (33) (more specifically, as in Fig. 1, a flange on valve needle (33)) against spring plate (29). (See col. 18, lines 45 to 53).

The combination (the properness of which is not conceded) of Sayer and Mesenich does not disclose, or even suggest, the feature which provides that “the second resetting spring holds the armature in position at the stationary second limit stop such that the armature is positioned at a preestablished distance from the first limit stop, configured on the valve needle”, as recited in claims 7 and 9 (emphasis added). As indicated above, spring (35) is stated to force a flange on valve needle (33) against spring plate (29). (See col. 18, lines 49 to 53). Accordingly, there is no “preestablished distance” between the armature and a stop on the valve needle, as recited in claim 7. Further, the combination of Sayer and Mesenich does not disclose, or even suggest, a magnetic restricter disposed in a vicinity of the stationary second limit stop and arranged on at least one of the connecting part and the armature, as recited in claims 7 and 9. Further, the combination of Sayer and Mesenich does not disclose, or even suggest, a connecting part formed of a magnetic material and supporting the valve seat. Nozzle body (31) is not stated to be made from magnetic material. Therefore, the combination of Sayer and Mesenich does not disclose all of the features of claims 7 and 9.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and

not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

As explained above, the combination of Sayer and Mesenich does not disclose, or even suggest, the feature which provides that “the second resetting spring holds the armature in position at the stationary second limit stop such that the armature is positioned at a preestablished distance from the first limit stop, configured on the valve needle”, as recited in claims 7 and 9 (emphasis added). Further, the combination of Sayer and Mesenich does not disclose, or even suggest, a magnetic restricter disposed in a vicinity of the stationary second limit stop and arranged on at least one of the connecting part and the armature, as recited in claims 7 and 9. Further, the combination of Sayer and Mesenich does not disclose, or even suggest, a connecting part formed of a magnetic material and supporting the valve seat.

In view of all of the foregoing, it is respectfully submitted that claims 7 and 9 are allowable, and withdrawal of the obviousness rejections is therefore respectfully requested.

Claim 8 depends on claim 7 and is therefore allowable for at least the same reasons as claim 7.

Claims 10 to 17, depend on claim 9, and are therefore allowable for at least the same reasons as claim 9.

Claims 11 to 17, are allowable for the following further reasons. As to claim 11 and 12, the combination of Sayer and Mesenich does not disclose, or even suggest, an armature guide integrated in the connecting part, in which the stationary second limit stop is integrated in the connecting part, as recited in claims 11 and 12. Also, the asserted combination does not disclose, or even suggest, an external pole in which the armature cooperates with the external pole, the armature guide, and the stationary second limit stop, as recited in claims 13 and 14. The asserted combination does not disclose, or even suggest, a magnetic restricter arranged at a periphery of a segment of the armature that is aligned with the valve needle, as recited in claim 15. The asserted combination also does not disclose, or even suggest, an external pole and a casing formed of a non-magnetic material and arranged between the connecting part and the external pole, as recited in claims 16 and 17.

As further regard the obviousness rejections, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and it must also

provide a motivation or suggestion for combining the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the “problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem”, Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998). The prior art simply does not address the problems met by the subject matter of any of the rejected claims.

The cases of In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), also make plain that the Office Action’s assertions that it would have been obvious to modify the reference relied upon does not properly support a § 103 rejection. It is respectfully suggested that those cases make plain that the Office Action reflects a subjective “obvious to try” standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . **One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1600 (citations omitted; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted; italics in original).

That is exactly the case here since it is respectfully submitted that the Office Action reflects hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding.

More recently, the Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a “technologically simple concept” -- which is not even the case here, there still must be some finding as to the “specific understanding or principle within the

knowledge of a skilled artisan” that would motivate a person having no knowledge of the claimed subject matter to “make the combination in the manner claimed”, stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. *With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed.* In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (italics added)). Here again, there have been no such findings to establish that the features discussed above of the rejected claims are met by the references relied upon. As referred to above, any review of the references, whether taken alone or combined, makes plain that they simply do not describe the features discussed above of the rejected claims.

In summary, claims 7 to 17 are allowable, and withdrawal of the obviousness rejections is therefore respectfully requested.

New claims 18 to 23 do not add any new matter and are fully supported by the present application, including the Specification. Claims 18 to 23 includes features like those of claims 7 to 17, so that claims 18 to 23 are allowable for essentially the same reasons of claims 7 to 17.

Accordingly, claims 7 to 23 are allowable.

Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. It is therefore respectfully requested that the objections and rejections be withdrawn. Since all issues have been addressed, an early and favorable action on the merits is respectfully requested.

Respectfully submitted,
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